



**AHRQ QIs Fact Sheet:
FAQs on the SAS QI and WinQI v2018 ICD-10-CM/PCS
(Non-Risk Adjusted) Software**

AHRQ QI Software Product Information

1. Why is the AHRQ QI software now being called “v2018” and not “v8.0”?

AHRQ revised its naming approach to better reflect the fiscal year in which the software tools are released, instead of an incremental version number. Therefore, the current versions of the AHRQ QI software are called **SAS QI v2018 ICD-10-CM/PCS (Non-risk Adjusted)** and **WinQI v2018 ICD-10-CM/PCS (Non-risk Adjusted)** (referred to as “v2018 software” throughout this document). Additionally, the revised AHRQ QI software naming approach helps to differentiate it from the CMS Recalibrated PSI Software v8.0 (Medicare Fee For Service (FFS) Population only) released by the Centers for Medicare & Medicaid Services (CMS) in Spring 2018.

2. How does the CMS Recalibrated PSI Software v8.0 differ from the AHRQ QI v2018 software?

The CMS Recalibrated PSI software v8.0 uses AHRQ QI software v7.0.1 as its base and is risk-adjusted for Medicare FFS population only. This CMS Recalibrated PSI software v8.0, is being used as a part of CMS’s Inpatient Quality Reporting Program (IQR), Value-Based Purchasing Program (VBP), and Hospital-Acquired Conditions Program (HAC). While the AHRQ QI software v2018 ICD-10 CM/PCS is intended for an all payer population and non-risk adjusted. The v2018 SAS QI and WinQI software releases include all four modules with annual coding updates for fiscal year 2018.

3. What year of data do the SAS QI and WinQI v2018 software support?

The v2018 software supports FY 2018 (October 2017 to September 2018) data.

4. Is the v2018 software backwards compatible?

Yes, the software is backwards compatible, meaning that it supports discharges classified under ICD-10-CM/PCS retroactively through October 2015.



Risk-Adjusted Software Information

5. Is the AHRQ QI software v2018 (SAS QI and WinQI) risk adjusted?

No. Because of the transition to ICD-10-CM/PCS, risk adjustment is not supported in the v2018 software. At least one full year of data coded in ICD-10-CM/PCS is needed to develop robust risk adjustment models for the ICD-10-CM/PCS compatible software. AHRQ will not have a full year of ICD-10-CM/PCS coded all-payer data until the summer of 2018.

6. When will a risk-adjusted software be available for the AHRQ QIs?

AHRQ anticipates including the risk adjustment in the next version of the software, v2019 expected to be released in Spring/Summer of 2019.

Version v2018 Specific Coding and Indicator Updates

7. What coding updates are included in the SAS QI and WinQI v2018 software?

The v2018 software release includes coding updates to align with the latest ICD-10-CM/PCS coding guidance. For a complete list of the indicator level changes, refer to the Change Logs for each module:

- Prevention Quality Indicators (PQIs):
https://www.qualityindicators.ahrq.gov/Downloads/Modules/PQI/V2018/ChangeLog_PQI_v2018.pdf
- Inpatient Quality Indicators (IQIs):
https://www.qualityindicators.ahrq.gov/Downloads/Modules/IQI/V2018/ChangeLog_IQI_v2018.pdf
- Patient Safety Indicators (PSIs):
https://www.qualityindicators.ahrq.gov/Downloads/Modules/PSI/V2018/ChangeLog_PSI_v2018.pdf
- Pediatric Quality Indicators (PDIs):
https://www.qualityindicators.ahrq.gov/Downloads/Modules/PDI/V2018/ChangeLog_PDI_v2018.pdf

8. What are some of the major updates in the v2018 software?

Some additional changes to coding updates that are reflected in the v2018 software include:

- The Pediatric Quality Indicator NQI 02 (Neonatal Mortality Rate) is suppressed (see Question 9 for more information).



- The ABDOMIOPEN, ABDOMIPOTHER, and ABDOMI15P formats/setnames were updated to remove esophageal and other esophageal insertion procedures unlikely to be approached through the abdomen. The specifications for PSI 14 and PDI 11 (Postoperative Wound Dehiscence Rate), respectively for the adult and pediatric populations, and PSI 15 (Unrecognized Abdominopelvic Accidental Puncture or Laceration Rate) limit the denominator to abdominopelvic surgery discharges only.
- The formats/setnames used in PDI 08 and PSI 09 (Perioperative Hemorrhage or Hematoma Rate) for pediatric and adult discharges were updated to better match the technical specifications. This includes removing ICD-10 PCS procedure codes in the HEMOTH2P format/setname for control of perioperative hemorrhage and evacuation of hematoma procedures for excision or drainage unrelated to hemorrhage or hematoma. The NEUROMD format identifying neuromuscular disorders updated diagnosis codes to specify respiratory involvement. See the change logs (refer to the links in Question 5) for specific coding details.
- Procedures that are no longer recognized as operating room procedures were removed from the ORPROC format.
- Procedures used in the PDI 05 and PSI 06 (Iatrogenic Pneumothorax Rate for pediatrics and adults) to identify thoracic surgery in the THORAIP format/setname were updated to exclude low risk procedures or procedures that are unlikely to cause non-preventable pneumothorax.
- Diagnosis codes that are exempt from present on admission (POA) classification in the v35 CMS grouper were added to POA exempt format.

9. Why is the Pediatric Quality Indicator NQI 02 (Neonatal Mortality Rate) suppressed in the v2018 software?

NQI 02 is suppressed in part because of discrepancies in how individual states define a live birth. For example, several states do not include qualifying language distinguishing a heartbeat from transient cardiac contractions and distinguishing respirations from fleeting respiratory efforts or gasps. Thus, in some cases, induced terminations of pregnancy are misclassified as live births because there were “transient cardiac contractions” and “fleeting respiratory efforts or gasps.”

NQI 02 does not offer a true neonatal mortality rate because there is no linkage of records for patients who are transferred from one hospital to another, or from a hospital to another setting of care. AHRQ is reviewing the specifications and the indicator will be updated or retired in the next software release (v2019).

Interpreting AHRQ QI Results

10. How does AHRQ recommend that users interpret QI rates calculated with the v2018 software?

All measures that use the ICD-10 CM/PCS coding standards may see some variation in rates resulting from the transition in coding systems. AHRQ recommends using v2018 rates as a starting point for internal assessment and not for comparison across providers. Users may review discharge-level results to determine if evidence in the administrative record indicates occurrence of an adverse event. Further information about the ICD-10-CM/PCS transition and use of administrative data is available at: https://www.hcup-us.ahrq.gov/datainnovations/icd10_resources.jsp.

11. Can users assess change in performance by comparing QI rates produced by QI software that uses ICD-10-CM/PCS to rates produced by QI software that uses ICD-9-CM?

No. At this time, AHRQ does not recommend making any comparisons between ICD-9 and ICD-10 rates. The ICD-10-CM/PCS coding system is vastly different from the ICD-9-CM coding system. While there are many advantages to the ICD-10-CM/PCS coding system, ICD-10-CM/PCS introduces a new set of challenges for coders, medical professionals, researchers, and other professionals who use clinical coding. Additional information on the ICD-10-CM/PCS coding system and challenges related to identifying the same clinical constructs between ICD-9-CM and ICD-10-CM/PCS is available at: https://www.hcup-us.ahrq.gov/datainnovations/icd10_resources.jsp

The ability to make accurate comparisons between ICD-9-CM and ICD-10-CM/PCS rates will be indicator-specific. For some indicators the rates may be comparable because of the one-to-one mapping that was used to ensure measure intent was accurately reflected in the ICD-10-CM/PCS specifications. (Additional details on the AHRQ QI conversion process are available at:

https://www.qualityindicators.ahrq.gov/Downloads/Resources/Publications/2013/C.14.10.D001_REVISED.pdf.) However, for other indicators, the identification of a case under ICD-9-CM and the identification of a case under ICD-10-CM/PCS may not be comparable, making accurate comparisons of those rates difficult.

12. What has been the biggest effect of the AHRQ QI transition to ICD-10-CM/PCS on indicator rates?

As expected, the effect of the transition varies by indicator. Some rates have increased while others have decreased. However, it is difficult to distinguish changes in rates related to the ICD-10-CM/PCS transition and changes related to performance, in part because of a paucity of dual-coded data. While the transition to ICD-10-CM/PCS has made it more difficult to monitor performance over time, the transition is beneficial because it allows



for opportunities to improve many indicators by adding greater specificity in many codes. AHRQ continues to assess variation in rates to determine if current outcomes reflect the full adoption of ICD-10-CM/PCS coding.

13. What is the impact of the FY 2018 ICD-CM/PCS coding changes in v2018 Quality Indicators (QIs) rates?

The v2018 software updates all measure specifications to reflect coding updates for ICD-10-CM/PCS codes effective as of October 1, 2017. Measure rates based on discharges after this date will vary to the extent that the new codes are reflected in the data. As part of the updates, several formats/setnames in the PDI and PSI modules were updated by removing procedure codes unrelated to the clinical concept being measured. This will result in slightly lower denominator populations depending on the prevalence of the procedures in the input data. The largest reduction may be noticed in the PDI 11 and PSI 14 measures that now exclude esophageal procedures. The lower denominator will result in an increase in the final observed rate for these measures (see Question 8 for more information about changes to indicators).

14. What important considerations should users keep in mind when comparing performance across hospitals using observed rates given that risk adjustment is not available?

The observed rate is the number of discharges where the indicator event occurred—called the numerator—divided by the total number of discharges where the event could have occurred, called the denominator. For provider-level indicators, such as those reported by hospitals, observed rates can provide information about recent performance and trends over time within a particular hospital if its case mix is consistent over time. However, observed rates do not take into account variation in the mix of patients treated at different hospitals, which can also affect indicator rates.

Risk adjustment will be included in future versions of the ICD-10-CM/PCS compatible AHRQ QI software, which will enable comparisons across hospitals while taking into account, or adjusting for, differences in key characteristics such as age and comorbidities among patients served by each hospital.

15. What do I need to know about the v2018 QI population file?

The AHRQ QI Program discovered that the QI Population Files (v7.0 1995-2017 population file and prior) contained some inaccurate county-level age- sex- and race-specific county population estimates beginning with the 2012 calendar year. The QI population file has been updated and a new version, v2018, is now available at: http://www.qualityindicators.ahrq.gov/Downloads/Software/SAS/V2018/1995-2017_Population_Files_V2018.zip.



The updated QI population file uses the U.S. Census's 'County Population by Characteristics: 2010-2017 Vintage' tables. This QI population file includes estimates for the 1995-2017 period. Population data from 1995-1999 uses a different method for the age group (18-24) compared to the population data starting with 2000. Please see the details around the population methodology at:

http://www.qualityindicators.ahrq.gov/Downloads/Software/SAS/V2018/AHRQ_QI_v2018_ICD10_Population_File.pdf

The inaccurate population estimates primarily affect the Prevention Quality Indicators (PQIs), although a few area-level indicators are embedded in the other three QI modules:

- Pediatric Quality Indicators (PDIs): PDI 14-PDI 18, PDI 90-PDI 92)
- Patient Safety Indicators (PSIs): PSI 21-PSI 27, all of which were retired in v7.0)
- Inpatient Quality Indicators (IQIs): IQI 26-IQI 29, all of which were retired in v7.0).

16. Can I use the v2018 QI population file with prior versions of SAS QI software?

The v2018 QI population file has the same structure as the previous population files. Therefore, it can be seamlessly used with all previous versions of SAS QI software.

Using AHRQ Quality Indicators

17. Is technical assistance available for use of the AHRQ QIs?

Yes. Users may submit questions or comments to QISupport@ahrq.hhs.gov.